

ABSTRACT OF THE DISCLOSURE

Apparatus useful for purifying a gas stream comprises a heat exchanger, a monolithic supported catalyst system whose downstream end is connected in fluid communication with an inlet of the heat exchanger, a shell-and-tube heat exchanger, a catalyst system comprising a catalyst supported on a monolithic unitary support having passages therethrough, the support having a length and upstream and downstream ends at opposite ends of the length, wherein the diameter of said support is from one-half to two times the diameter of the shell of the heat exchanger, and wherein the downstream end of said support is connected in fluid communication with the inlets of said tubes by a passageway whose length does not exceed the length of the support and whose diameter is at no point less than the smaller of the diameter of said support and the diameter of said shell.